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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,812	10/02/2000	Jang-Kun Song	6192.0154.AA	3691

7590 03/21/2003
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EXAMINER

AKKAPEDDI, PRASAD R

ART UNIT PAPER NUMBER

2871

DATE MAILED: 03/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/676,812

Applicant(s)

SONG ET AL.

Examiner

Prasad R Akkapeddi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/16/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-71 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 and 21-71 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5. 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 13-20 in Paper No. 7 is acknowledged. The traversal is on the ground(s) that claims 1-20 are general claims and claims 21-71 are simple variants of claims 1-20. This is not found persuasive because the non-elected claims belong to different species as detailed in the office action dated December 4, 2002.

The requirement is still deemed proper and is therefore made FINAL.

Drawings

2. The drawings filed on 10/2/2000 are acceptable subject to correction of the informalities indicated on the attached "Notice of Draftperson's Patent Drawing Review," PTO-948. In order to avoid abandonment of this application, correction is required in reply to the Office action. The correction will not be held in abeyance.

3. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

The abstract of the disclosure is objected to because: It is more than 150 words long. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Lien et al. (Lien) (U.S. Patent No. 5,309,264).

As to claim 13: Lien discloses a liquid crystal display comprising a first insulating substrate (22), a pixel electrode (90) (Fig. 5) formed on the top surface of the first insulating substrate (22), and the pixel electrode having a first opening pattern (91), a second insulating substrate (24) a common electrode (92) the common electrode having a second opening pattern (94 a, 94b), a liquid crystal layer (36) sandwiched between the first substrate and the second substrate. Lien also discloses the first opening pattern and the second opening pattern overlap each other to thereby partition the pixel electrode into a plurality of sub-regions (Col. 5, lines 34-47), each sub region being polygonal in shape with two longest sides proceeding parallel to each other (Fig. 5).

As to claim 14: Lien discloses the sub-regions of the pixel electrode are classified into a first type that has the longest sides arranged in a first direction and a second type that has the longest sides arranged in a second direction normal to the first direction (see the shape of the electrode in Fig. 5).

As to claims 15 and 16: Lien discloses first direction is at a slant with respect to long or short sides of the pixel electrode and the first direction is parallel to one of long and short sides of the pixel electrode (Fig. 5).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lien.

a. As to claims 18-19: Lien discloses a liquid crystal display comprising a first insulating substrate (22), a pixel electrode (90) (Fig. 5) formed on the top surface of the first insulating substrate (22), and the pixel electrode having a first opening pattern (91), a second insulating substrate (24) a common electrode (92) the common electrode having a second opening pattern (94 a, 94b), a liquid crystal layer (36) sandwiched between the first substrate and the second substrate. Lien discloses the application of the electric field between the electrodes and the subsequent orientation of the liquid crystal molecules and the formation of multi

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domains (Col. 3, lines 49-58). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to infer the recitations in instant claims from the teachings of Lien to provide a liquid crystal display having high contrast over a wide viewing angle.

b. As to claims 17 and 20: Lien discloses the opening widths of the first and second patterns to be 5 microns and 10 microns. Note that the range for the widths as disclosed by Lien overlaps the range of 10 –16 micrometers (asserted in claims 17 and 20). Therefore, the range in claims 17 and 20 would have at least been obvious. See In re Malagari, 499 F.2d 197, 182 USPQ 549 (CCPA 1974).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the Lien et al. LCD device with the widths of 10-16 micrometers to provide a liquid crystal display having high contrast over a wide viewing angle.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

RR

March 3, 2003

W
ROBERT H. KIM
SUPERVISOR OF EXAMINER
TECHNICAL CENTER 1800